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Cc: [BURKHOLDER Kurt](#); [MCCLINCY Matt](#)
Subject: Conclusions from 1/28/10 DEQ/EPA ARARs Meeting
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Eric, Chip, Lori, Kristine, & Deb,

I said I'd try to capture the conclusions we reached in our 1/28 DEQ/EPA mtg re: ARARs, & send them to you for review & comment. I also added my understanding of unresolved issues & positions. Please review & edit. I grouped the conclusions, issues, & positions into the topics of the mtg agenda we used. I'd like this to be the basis for further discussion on the topics.

1) What triggers the need for an upland groundwater (GW) source control measure (SCM) based on WQC for protection of aquatic life (i.e., chronic AWQC)?

-Conclusion 1- Chronic AWQC should be met on a point-by-point basis in the river (surface water & transition zone water [TZW]).

-Conclusion 2- Consistent with the Joint Source Control Strategy (JSCS), if GW concentrations exceed a chronic AWQC in upland GW near the river, then a lines-of-evidences & weight-of-evidence approach can be used to determine whether the exceedance requires the consideration of a SCM. Lines of evidence can include site-specific factors like: 1) contaminant concentrations (i.e., magnitude of exceedance above an screening level value [SLV]), 2) the footprint of the plume's discharge area, 3) background, 4) load of contamination threatening the river, & 5) the presence/absence of significant upland source mass.

-Conclusion 3- GW source control decisions must be based on adequate site characterization..., & whether the GW plume is stable & has had the necessary time to reach the river since the release.

2) What triggers the need for an upland GW SCM based on WQC for protection of human health (i.e., "organism-only" ..., or "water-&-organism" AWQC)?

-Conclusion 1- Spatial averaging will be allowed for consideration of AWQC for protection of human health in the river (surface water & TZW).

-Conclusion 2- Consistent with the JSCS, if GW concentrations exceed a protection-of-human-health AWQC in upland GW near the river, then a lines-of-evidences & weight-of-evidence approach can be used to determine whether the exceedance requires the consideration of a SCM.

Lines of evidence can include site-specific factors like: 1) contaminant concentrations (i.e., magnitude of exceedance above an SLV), 2) the footprint of the plume's discharge area, 3) background, 4) load of contamination threatening the river, & 5) the presence/absence of significant upland source mass.

-Conclusion 3- GW source control decisions must be based on adequate site characterization..., & whether the GW plume is stable & has had the necessary time to reach the river since the release.

-Unresolved issue- Use "organism-only" or "water-&-organism" AWQC for source control & in-water ARARs?

-DEQ's position- Use "organism-only". These are the criteria we've been using in the JSCS & in the in-water PH risk assessments. We believe..., from a water-quality program perspective..., the "water-&-organism" values were meant to be used in a surface water body, not GW.

-EPA's position- I understand EPA favors using the "water-&-organism" AWQC in the both TZW & surface water.

3) What triggers the need for an upland GW SCM based on drinking water standards (MCLs)?

-Conclusion 1- For contaminated upland GW plumes where (a) this is not a current or reasonably likely future pathway to the river, or (b) the contamination is located upgradient of effective source control..., there is no expectation that the upland plume will be remediated for purposes of remediation of contaminated sediments & surface water at the Portland Harbor Superfund Site (PHS). This does not preclude remediation of the upland plume for other purposes under Oregon cleanup law (including, as appropriate, protection of upland drinking water), or as necessary to assure effectiveness & long-term reliability of a source control measure.

-Conclusion 2- Using the exposure assumptions defined in the PH baseline human health risk assessment (BHHRA)..., PH chemicals of interest (COI) do not exceed MCLs in surface water. This is true for all PH chemicals except for arsenic..., which may be at background levels.

-Unresolved issue 1- Should the exceedance of MCLs in upland GW trigger the need for consideration of source control?

-DEQ position- No. We understand much of EPA's argument that

MCLs need to be applied to upland GW flows from this line of reasoning: 1) there is risk to humans from exposure to water & sediment, 2) CERCLA remedies are required since there's unacceptable risk, 3) CERCLA remedies must achieve MCLGs or MCLs (per NCP & EPA policy/directives). The PH BHHRA concludes that PH COI do not pose unacceptable risk thru the surface water drinking water pathway. Furthermore, the exposure model for PH BHHRA doesn't contemplate direct contact with pore water (i.e., TZW). If there is no unacceptable risk from the drinking water pathway, there's no need for a remedy for this exposure pathway. Finally, the LWG did not conduct an upland CERCLA RI & the PH FS is not considering GW remedies..., only in-river cleanups. Therefore, the remedies the LWG is considering in the PH FS do not need to achieve MCLGs or MCLs..., particularly in GW.

If MCLs were to be applied to GW, they should be applied to help achieve acceptable risk levels in surface water at the PHS..., the point of exposure considered in the BHHRA.

-EPA position- Yes. EPA's position & support is laid out in detail in "Enclosure 2, December 2009 Identification of ARARs Letter". This enclosure was **not** included in EPA's final 1/6/10 "Preliminary Identification of ARARs" letter to the LWG, but was included in draft versions of the letter. "Enclosure 2" was also attached to a 2/1/10 e-mail Lori sent to Kurt.

-Unresolved issue 2- Should the consideration of MCLs in TZW only be considered in areas of GW plume discharge? In other words, should EPA consider TZW concentrations where clean GW flows thru buried contaminated sediments resulting in potentially contaminated TZW?

-DEQ's position- No, but it's really more of a matter of consistency. If MCLs need to be considered in TZW, they should be considered anywhere there may be an exceedance..., not just at GW plume discharge areas.

-EPA's position- Yes. For the pore-water portion of the site..., MCLs only need to be considered in GW discharge areas. We understand EPA supports their position by saying..., "Because the SDWA standards are only relevant and appropriate to groundwater or surface water that is a potential drinking water supply, SDWA standards are not considered relevant and appropriate in areas of

sediment contamination where interstitial porewater is only impacted by partitioning from bulk sediment” (Enclosure 2, page 4).

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